

**REMARKS**

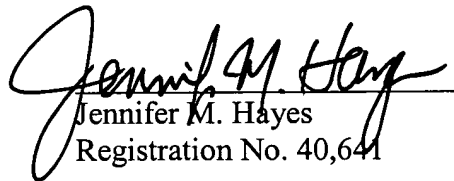
Claims 1-14 are all the claims pending in the application. The amendments made to claims 1 and 2 herein are editorial in nature to correct errors made in the Amendment previously filed on July 15, 2002. Specifically, duplicate formulae are deleted from claims 1 and 2 and the definitions of the substituents for formulae (1) and (3) are added to claim 2.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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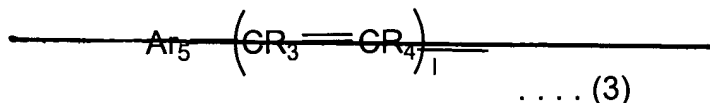
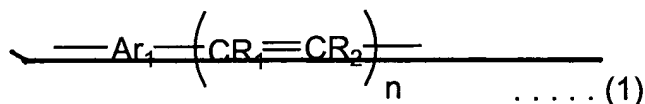
Date: July 31, 2002

**APPENDIX**  
**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

1. (Twice Amended) A polymeric fluorescent substance which emits a fluorescence in solid state and having a number-average molecular weight of  $10^3$  to  $10^8$  in terms of polystyrene, wherein the substance contains one or more of repeating units represented by the following formula (1) and formula (3),



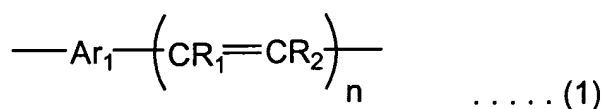
and these repeating units are so selected as to satisfy the following conditions (a) to (c):

(a): the total amount of the repeating units represented by the formulae (1) and (3) is 50 mol% or more of the amount of the whole repeating units,

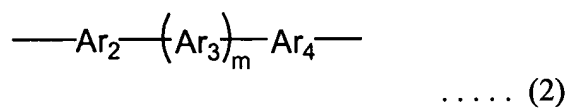
(b): the amount of the repeating unit represented by the formula (3) is more than 0.1 mol% and less than 9 mol% based on the total amount of the repeating units represented by the formula (1) and formula (3), and

(c): when the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (1) is represented by  $\lambda_1$  (nm) and the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (3) is represented by  $\lambda_2$  (nm), the following relation is satisfied:

$$1239/\lambda_1 \geq 1239/\lambda_2 + 0.05$$

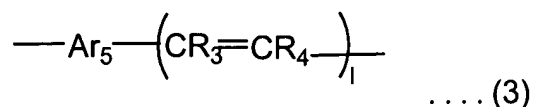


in the formula,  $\text{Ar}_1$  is a group represented by the following formula (2);  $\text{R}_1$  and  $\text{R}_2$  each independently represents a group selected from the group consisting of a hydrogen atom, alkyl group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; and  $n$  is 0 or 1,



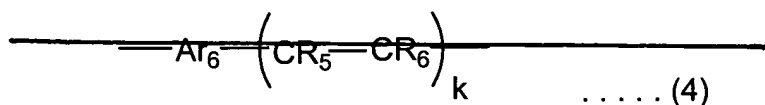
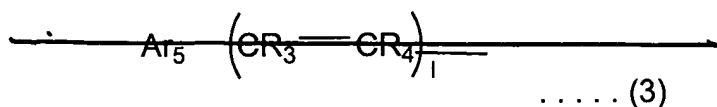
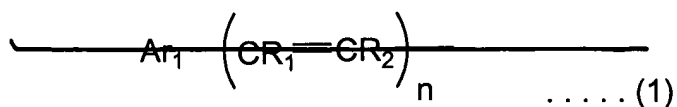
in the formula,  $\text{Ar}_2$  to  $\text{Ar}_4$  each independently represents an arylene group having 6 to 60 carbon atoms contained in the main chain, or a heterocyclic compound group having 4 to 60 carbon atoms contained in the main chain; at least one of  $\text{Ar}_2$  to  $\text{Ar}_4$  is a group other than a 6-membered ring, or at least one of  $\text{Ar}_2$  to  $\text{Ar}_4$  has a substituent other than a hydrogen atom; when a plurality of substituents are carried, they may be the same or different; adjacent rings may be mutually connected directly or via a substituent to form a ring;  $m$  is an integer from 0 to 3; wherein,  $\text{Ar}_2$

and Ar<sub>4</sub> constitute a structure wherein if Ar<sub>2</sub> moves in parallel to the polymer main chain, it does not completely overlap Ar<sub>4</sub>,



in the formula, Ar<sub>5</sub> represents an arylene group having 6 to 60 carbon atoms contained in the main chain, or a heterocyclic compound group having 4 to 60 carbon atoms contained in the main chain; R<sub>3</sub> and R<sub>4</sub> each independently represents a group selected from the group consisting of a hydrogen atom, alkyl group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; 1 is 0 or 1.

2. (Amended) A polymeric fluorescent substance which emits a fluorescence in solid state and having a number-average molecular weight of 10<sup>3</sup> to 10<sup>8</sup> in terms of polystyrene, wherein the substance contains each one or more of repeating units represented by the following formula (1), formula (3) and formula (4), respectively,



and these repeating units are so selected as to satisfy the following conditions (d) to (f):

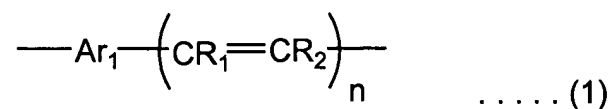
(d): the amount of the repeating unit represented by the formula (1) is 10 mol% or more of the amount of the whole repeating units, and the total amount of the repeating units represented by the formula (1), formula (3) and formula (4) is 50 mol% or more of the amount of the whole repeating units,

(e): the amount of the repeating unit represented by the formula (3) is more than 0.1 mol% and less than 9 mol% based on the total amount of the repeating units represented by the formula (1), formula (3) and formula (4), and

(f): when the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (1) is represented by  $\lambda_1$  (nm), the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (3) is represented by  $\lambda_2$  (nm) and the absorption edge wavelength of a polymer solely composed of a repeating unit represented by the formula (4) is represented by  $\lambda_3$  (nm), the following relations are satisfied:

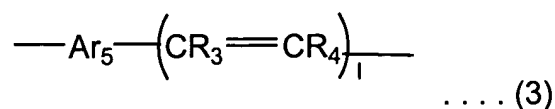
$$1239/\lambda_1 \geq 1239/\lambda_2 + 0.05$$

$$1239/\lambda_3 \geq 1239/\lambda_2 + 0.05$$

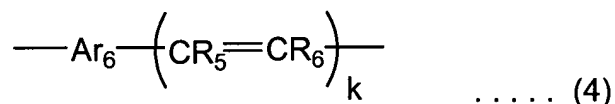


in the formula, Ar<sub>1</sub> is a group represented by the following formula (2); R<sub>1</sub> and R<sub>2</sub> each independently represents a group selected from the group consisting of a hydrogen atom, alkyl

group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; and n is 0 or 1,



in the formula, Ar<sub>5</sub> represents an arylene group having 6 to 60 carbon atoms contained in the main chain, or a heterocyclic compound group having 4 to 60 carbon atoms contained in the main chain; R<sub>3</sub> and R<sub>4</sub> each independently represents a group selected from the group consisting of a hydrogen atom, alkyl group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; 1 is 0 or 1



in the formula, Ar<sub>6</sub> is an arylene group having 6 to 60 carbon atoms contained in the main chain, or a heterocyclic compound group having 4 to 60 carbon atoms contained in the main chain; R<sub>5</sub> and R<sub>6</sub> each independently represents a group selected from the group consisting of a hydrogen atom, alkyl group having 1 to 20 carbon atoms, aryl group having 6 to 60 carbon atoms, heterocyclic compound group having 4 to 60 carbon atoms and cyano group; and k is 0 or 1.